



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|-----------------------|---------------------|------------------|
| 10/718,407 | 11/20/2003 | Toshiyuki Takabayashi | KOY-11 | 9978 |
| 20311 | 7590 | 12/01/2005 | EXAMINER | |
| LUCAS & MERCANTI, LLP 475 PARK AVENUE SOUTH 15TH FLOOR NEW YORK, NY 10016 | | | SHAH, MANISH S | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2853 | |

DATE MAILED: 12/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|--|--|
| Office Action Summary | Application No. 10/718,407 | Applicant(s) TAKABAYASHI, TOSHIYUKI | |
| | Examiner Manish S. Shah | Art Unit 2853 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>6/1/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-3 & 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Marshall et al. (# EP 0540203 A1).

Marshall et al. discloses an active ray curable inkjet ink solvent less ink including a up to 70% monofunctional monomer, up to 70% bifunctional monomer and 0 to 10% tri or higher functional monomer (see Abstract). They also disclose that the monomers are acrylate based (column: 3, line: 9-58). They also disclose that the ink has a viscosity of 40 to 50 cP (column: 2, line: 10-15). They also disclose an image forming method for forming an image on a recording material including ejecting ink droplets of the active ray curable ink jet solvent less ink through inkjet recording head and irradiating the ink with an active ray within 0.5 sec (column: 2, line: 18-31; 45-58).

2. Claims 1-3 & 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Marshall et al. (# US 5275646).

Marshall et al. discloses an active ray curable inkjet ink solvent less ink including a up to 70% monofunctional monomer, up to 70% bifunctional monomer and 0 to 10% tri

or higher functional monomer (column: 3, line: 23-65). They also disclose that the monomers are acrylate based (column: 3, line: 23-58). They also disclose that the ink has a viscosity of up to 50 cP (column: 5, line: 35-41). They also disclose an image forming method for forming an image on a recording material including ejecting ink droplets of the active ray curable ink jet solvent less ink through inkjet recording head and irradiating the ink with an active ray within 0.5 sec (column: 2, line: 65-68).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 4-5 & 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall et al. (# EP 0540203 A1) in view of Koitabashi et al. (# US 6435677).

Marshall et al. discloses all the limitation of active ray curable ink except that the ink further includes the species of tertiary amine or photo-polymerizable tertiary amine monomer; and ink droplet ejected from the nozzles of the inkjet recording head amount is 1 to 15 pl.

Koitabashi et al. teaches that to get the stable printed image, ink composition further includes the tertiary amine (column: 13, line: 30-40; column: 16, line: 35-65); and

the ink droplet ejected from the nozzles of the inkjet recording head amount is 1 to 15 pl (column: 26, line: 45-55).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink composition and image-forming method of Marshall et al. by the aforementioned teaching of Koitabashi et al. in order to get the sharp and high density printed image.

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall et al. (# EP 0540203 A1) in view of Takami et al. (# US 5721020).

Marshall et al. discloses all the limitation of active ray curable ink except that the total thickness of ink film obtained after the ink droplet are cured by irradiating the ink droplets with the active ray, measures 2 to 20 micrometer.

Takami et al. teaches that to get the stable printed image, the total thickness of ink film obtained after the ink droplet are cured by irradiating the ink droplets with the active ray, measures 2 to 20 micrometer (column: 13, line: 33-37).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the image-forming method of Marshall et al. by the aforementioned teaching of Takami et al. in order to get the image with superior processability, adhesivity, hardness and mar resistance, which increases the storage stability of the printed image.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall et al. (# EP 0540203 A1) in view of Ushirogouchi et al. (# US 6959986).

Marshall et al. discloses all the limitation of the inkjet recording apparatus except that the total power consumption of a light source for irradiating the ink with the active ray amount less than 1 kw.hr.

Ushirogouchi et al. teaches that to get the uniform drying and get the high quality printed image, the total power consumption of a light source for irradiating the ink with the active ray amount less than 1 kw.hr. (see Table: 3; column: 49, line: 50-65).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink jet recording apparatus of Marshall et al. by the aforementioned teaching of Ushirogouchi et al. in order to get the uniform drying and high quality printed image.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall et al. (# EP 0540203 A1) in view of Takami et al. (# US 5721020) as applied to claim 8 above, and further in view of Ushirogouchi et al. (# US 6959986).

Marshall et al. and Takami et al. discloses all the limitation of the inkjet recording apparatus except that the total power consumption of a light source for irradiating the ink with the active ray amount less than 1 kw.hr.

Ushirogouchi et al. teaches that to get the uniform drying and get the high quality printed image, the total power consumption of a light source for irradiating the ink with the active ray amount less than 1 kw.hr. (see Table: 3; column: 49, line: 50-65).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink jet recording apparatus of Marshall et al. as modified by the aforementioned teaching of Ushirogouchi et al. in order to get the uniform drying and high quality printed image.

7. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall et al. (# EP 0540203 A1) in view of Koitabashi et al. (# US 6435677) as applied to claims 4-5 & 9-10 above, and further in view of Ushirogouchi et al. (# US 6959986).

Marshall et al. and Koitabashi et al. discloses all the limitation of the inkjet recording apparatus except that the total power consumption of a light source for irradiating the ink with the active ray amount less than 1 kw.hr.

Ushirogouchi et al. teaches that to get the uniform drying and get the high quality printed image, the total power consumption of a light source for irradiating the ink with the active ray amount less than 1 kw.hr. (see Table: 3; column: 49, line: 50-65).

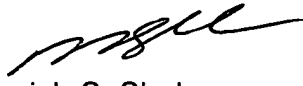
It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink jet recording apparatus of Marshall et al. as modified by the aforementioned teaching of Ushirogouchi et al. in order to get the uniform drying and high quality printed image.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Manish S. Shah whose telephone number is (571) 272-2152. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Manish S. Shah
Primary Examiner
Art Unit 2853

MSS

11/21/05